

ISHKHANOV, B. S.; KAPITONOV, I. M.; YUR'YEV, B. A.; SHEVCHENKO, V. G.

"The giant resonance of the gamma quantum dipole absorption in Ca^{40} ."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics,
Paris, 2-8 Jul 64.

ACCESSION NR: AP4031181

S/0056/64/046/004/1484/1486

AUTHOR: Ishkhanov, B. S.; Kapitonov, I. M.; Korniyenko, E. N.; Shevchenko, V. G.; Yur'yev, B. A.

TITLE: Photoprotons from calcium

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1484-1486

TOPIC TAGS: photoproton, angular distribution, energy distribution, photoproton yield curve, integrated cross section, shell model, sum rule

ABSTRACT: To eliminate some contradictions which still exist between the calculations of the photodisintegration of Ca^{40} according to the many-particle shell model and the experimental data, the authors measured the angular and energy distribution of photoprotons from Ca^{40} for a maximum γ -ray energy 22 MeV, and also obtained cross sections for the reactions $\text{Ca}^{40}(\gamma, p)$. The measurements were made on the 35 MeV betatron of NIIYaF MGU, the energy distributions being obtained with emulsions and the photoproton yield curves with scintillation spectrometers. The position of the peak in the cross section for the (γ, p) reaction agrees with the theoretical calculation Balashov, Shevchenko, and Yudin (Nucl. Phys. v. 27, 323, 1961), and the integrated cross section agrees with both the sum-rule calculations and

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ACCESSION NR: AP4031181

the shell-model calculations. The positions of the cross section peaks also agree with theory. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 24Sep63

DATE ACQ: 07May64

ENCL: 02

SUB CODE: NP

NR REF SOV: (004)

OTHER: 002

Card 2/4

ISRAKHEVA, B. S.; KAPITONOV, I. M.; KORNIYENKO, E. I.; SHEVCHENKO, V. G.; YUR'YEV, B. A.

"Investigations of the Reaction $\text{Ca}^{40}(\alpha, p)$."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

NIIYaF, MGU (Sci Res Inst Nuclear Physics, Moscow State Univ)

CHVERTKO, A.I.; SEVBO, P.I., kand. t.khn. nauk, retsenzent;
~~KAPITONOV, I.M.~~, inzh., red.; TAIROVA, A.L., red.izd-va;
MAKAROVA, L.A., tekhn. red.

[Flux handling equipment for automatic and semiautomatic
welding] Flusovaia apparatura dlia avtomaticheskoi i po-
luavtomaticheskoi svarki. Izd.2., dop. i perer. Moskva,
Mashgiz, 1963. 206 p. (MIRA 17:2)

L 33013-55 SMT(m) Feb DIAAP
ACCESSION NR: AP5005942

8/0048/65/029/002/C213/0215

AUTHOR: Dushkov, I.I.; Ishkhanov, B.S.; Kapitonov, I.M.; Shevchenko, V.G.; Tur'yev

TITLE: Photoprotons from zirconium /Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi, 14-22 Feb 1964/

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v.24 no.2, 1965, 213-215

TOPIC TAGS: bremsstrahlung, gamma reaction, photonuclear reaction, proton, dipole photoabsorption, quadrupole photoabsorption, zirconium

ABSTRACT: The $Zr(\gamma, p)$ reaction was investigated with 22, 25 and 34 MeV bremsstrahlung from the 35 MeV betatron of the Moscow State University. A 14.7 mg/cm^2 zirconium of natural isotopic composition on an organic backing was employed as target. The energy distribution of the photoprotons was found to have a peak with a width of 4.5 MeV; this is in agreement with the results obtained by other authors. The energy distribution of the photoprotons was compared with the results of the statistical model of the reaction.

11/17/65

ACCESSION NR: AP5005942

anism (Patterson, 1962). The agreement between theory and experiment was reasonably good for photon energies below about 7 MeV, but there was a considerable excess of high-energy photoprotons. These are ascribed to direct processes and account for at least 35% of the total number of photoprotons. The angular distribution of the photoprotons ejected by 25 MeV bremsstrahlung was moderately asymmetric and indicated that about 35% of the photoprotons are produced by the direct process.

... tested water leak in ...
... M.V. Lomonosov (S. Vostok Research Institute for ...
... State University

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520430001-6

UNCLASSIFIED. CO

ENCL: 00

8161 COMZ, NP

OTHER: 00

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000520430001-6"

TITLE: Investigation of the $\text{Ca}^{40}(\gamma, p)$ reaction /Report, 11th Annual Conference on Nuclear Spectroscopy held in Tbilisi, 14-22 Feb 1964/

USSR. Izvestiya. Seriya fizicheskaya, v.25, no.3, 1963, 321-224

Investigation of the $\text{Ca}^{40}(\gamma, p)$ reaction

The authors have determined the energy and angular distributions of protons emitted from Ca^{40} nuclei by D_2 and D_2O deuterons and from the $\text{Ca}^{40}(\gamma, p)$ reaction. The results are compared with the data of other authors.

The contradictory nature of some of the experimental data. A 4.1 ± 0.2 MeV metallic calcium target having the natural isotopic composition was employed.

AP0005944

... numerous other peaks. These maxima persisted in the distribution from 22
... and other maxima developed, including a broad maximum centered
in the 8 to 9 MeV region. This last maximum appears to be split in the case of pho-

GORYACHEV, B.I.; ISHKHANOV, B.S.; KAPITONOV, I.M.; SHEVCHENKO, V.G.;
YUR'YEV, B.A.

Energy distribution of photoprotons from Si^{28} . IAd. fiz. 1 no.6:
1005-1008 Je '65. (MIRA 18:6)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo univer-
siteta.

KAPITONOV, I. T.

Tractors

Tractor with an electrical winching boom. Les. prom. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August, 1952 ~~1955~~. Unclassified.

KAPITONOV, I.T., inzhener.

Using electric tractors in lumbering operations. Mekh.trud.rab.8
no.1:41-44 Ja-F '54. (MLRA 7:2)
(Lumbering--Machinery) (Tractors)

KAPITONOV, I. T.

USSR/ Miscellaneous - Industrial processes

Card : 1/1 Pub. 71 - 6/17

Authors : Kapitonov, I. T., Engineer

Title : Cycle of operation of the Novo-Lalinsk Lumber Cooperative

Periodical : Mekh. trud. rab.⁸4, 17 - 18, June 1954

Abstract : Tables and graph are presented showing the organization of work and the output of the Novo-Lalinsk Ural, Lumber Combine, which operates in accordance with a certain fixed cycle of operations set up by the Ministry of Lumber and Paper Industry USSR.

Institution : ...

Submitted : ...

KAPITONOV, I.T., inzhener.

Skidding timber with S-80 tractors. Mekh.trud.rab. 10 no.5:34-37
My '56. (MLRA 9:8)

(Lumbering--Machinery)

KAPITONOV, Il'ya Trofimovich; YERMOLIN, I.P., redaktor; POLTEVA, B.Kh.,
redaktor izdatel'stva; KARASIK, N.P., tekhnicheskiy redaktor

[Using S-80 tractors in lumbering] Ispol'zovanie traktorov S-80
na lesosagotovkakh. Moskva, Goslesbumisdat, 1957. 20 p.
(Tractors) (MLBA 10:8)
(Lumbering--Machinery)

KAPITONOV, I.T.; ZYRYANOV, N.Ye., master lesa.

S-80 tractors engaged in moving lumber. Les.prom. 35 no.4:
5-7 Ap '57. (MLRA 10:5)

1. Starshiy nauchnyy sotrudnik Ural'skogo filiala Tsentral'nogo
nauchno-issledovatel'skogo instituta mekhanizatsii i energetiki
(for Kapitonov).
(Lumbering) (Caterpillar tractors)

AUTHOR: Kapitonov, I.T., Engineer SOV/118-58-1-9/16

TITLE: The Trailing of Timber With Tractors of the Type S-100L
(Trelevka lesa traktorami S-100L)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 1,
pp 31-33 (USSR)

ABSTRACT: At the Pavdinskiy and Yurtinskiy ^{wood} cutting areas of the Novo-Lyalinskiy lespromkhoz kombinata Tagilles (The Novo-Lyalinskiy lespromkhoz of the Tagilles Combine), five experimental tractors of the type S-100L (power - 100 hp, speed - from 2.36 to 10.15 km per hour, weight - 12.6 tons) have been tested. The above mentioned wood cutting areas are located in the northern Urals in mountainous surroundings. In the winter of 1955/56, the temperature ranged from -42° to -50°, the snow reached a depth of 120 cm. The tractors were trailing trees with untrimmed tops. The preliminary testing results of the S-100L tractors, which are equipped with double drum winches, are said to be satisfactory, but to determine completely its dependability and efficiency, test-

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SOV/118-58-1-9/16

The Trailing of Timber With Tractors of the Type S-100L

ing is being continued.

There are 1 photograph, 1 table, and 1 diagram.

1. Wood industry--USSR
2. Wood--Handling
3. Tractors--Performance
4. Tractors--Test results

Card 2/2

1. KAPITONOV, I. V.
2. USSR (600)
4. Communist Party of the Soviet Union - Moscow
7. Report of the Moscow-City-wide Committee of the All-Union Communist Party (of Bolsheviks).
Gor. khoz. Mosk. 26. No. 10. 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

**KAPITONOV, Ivan Vasil'yevich; BELYAKOV, V., redaktor; MUKHIN, Yu.,
tekhnicheskii redaktor**

[Let us do our duty; report to the plenum of the Moscow Province
Committee of the Communist Party of the Soviet Union] Vypolnim svoi
dolg; doklad na Plenumu MK KPSS 12 iyunia 1957 goda. Moskva, Gos.
isd-vo polit.lit-ry, 1957. 22 p. (MLBA 10:9)

1. Sekretar' Moskovskogo oblastnogo komiteta Kommunisticheskoy partii
Sovetskogo Soyuza (for Kapitonov)
(Agriculture)

KAPITONOV. I.V., inzh.

Efficiency of the automatic control system of the main engine
on motorships of the type "Feliks Dzerzhinskii." Sudostroenie
30 no.9:29-30 S '64. (MIRA 17:11)

KAPITONOV, M. D.

USSR/Geophysics - Druse

21 Mar 53

"Two Types of Druse Minerals," D. P. Grigor'yev and
M. D. Kapitonov, Leningrad Mining Inst

DAN SSSR, Vol 89, No 3, pp 543-545

Distinguish two types of druse: 1) accretional druse
and 2) recrystallized druse. The first type is fre-
quently formed in hydrothermal seams and in filler
strata; the second type is formed in the cavities of
many mineral rocks. Both types are often found jointly,
but formed at different times under different conditions.
Presented by Acad A. A. Polkanov.

272136

11/1 10/00, 11.1.
MOKIYEVSKIY, V.A.; KAPITONOV, M.D.

Skeleton quartz crystals from druse-bearing veins. Kristallografiia
(LGI) no.4:99-109 '55. (MLRA 10: 5)

(Quartz crystals)

DIBROV, V.Ye.; DODIN, A.L., prof., nauchnyy red.; KAPITONOV, M.D., red.

[Geological structure of the Gutara-Biryusa mica-bearing area]
Geologicheskoe stroenie Gutaro-Birusinskogo sludonosnogo
raiona. Pod nauchnoy red. A.L. Dodina. Izd-vo Voroneshskogo
gos.univ., 1958. 125 p. (MIRA 11:12)
(Irkutsk Province--Mica)

KAPITONOV, M.D.

Unified genetic classification of the textures and structures of
useful minerals. Zhizn' Zem. no.1:77-84 '61. (MIRA 15:6)
(Mineralogy—Classification)

KAPITONOV, M.D.

Genetic systematics of mineral aggregates and microgeological
bodies. Zhizn' Zem. no.1:219-221 '61. (MIRA 15:6)
(Mineralogy—Classification)

KAPITONOVA, N.P.

Cation distribution in lithium galloferrites. Fiz. tver. tela 6
no.9:2650-2654 8 '64. (MIRA 17:11)

KAPITONOV, V.I.

Interrelationships of some predatory birds and marmots in the
tundras of eastern Yakutia [with summary in English]. Zool.shur.
36 no.8:1228-1232 Ag '57. (MLRA 10:9)

1. Nauchno-issledovatel'skiy institut polyarnogo zashchitya,
zhivotnovodstva i promyslovogo khozyaystva.

(Bulunskiy District--Animals, Habits and behavior of)
(Marmots) (Hawks)

AUTHOR: Kapitonov, V.I. (Leningrad) 26-58-4-28/45

TITLE: On the Distribution of Cuckoo Birds (O rasprostraneni ku-
kushek)

PERIODICAL: Priroda, 1958, Nr 4, p 104 (USSR)

ABSTRACT: The author refers to the Cuculus canorus and Cuculus satura-
tus, two species of cuckoos, which can be found all over the
USSR. As to their distribution in the northern regions of
the country, the author proves by examples that the Cuculus
canorus is found 400 to 450 km and the Cuculus saturatus
500 to 580 km farther north than is stated in the encyclo-
pedia "Birds of the USSR".

AVAILABLE: Library of Congress

Card 1/1 1. Cuckoo birds-Distribution-USSR

KAPITONOV, V.I.

Distribution and biology of the vole *Alticola (Aschizomys) lemmings*
Miller in the Kharaulakh Mountains. Zool. zhurn. 38 no.11:1729-1736
N '59 (MIRA 13:3)

1. Research Institute of Agriculture of the Far North, Leningrad.
(Kharaulakh Range--Field mice)

KAPITONOV, V.I.; CHERNAVSKIY, F.B.

Passerine birds in the lower Lena Valley. Ornitologiya no.3:80-97 '60.
(MIRA 14:6)
(Lena Valley—Passeriformes)

KAPITONOV, Y.I.

An outline of the biology of the marmot *Marmota camtschatica* Pall.
Zool.shur. 39 no.3:448-457 '60. (ISSN 13:6)

1. Research Institute of Agriculture of the Far North, Leningrad.
(Kharaulakh Range--Marmots)

KAPITONOV, V.I.

Parasites of *Marmota camtschatica* Pall. Zool. zhur. 39 no.9:1435-1437
S '60. (MIRA 13:9)

1. Research Institute of Agriculture of the Far North, Leningrad.
(Verkhoyansk Range--Parasites) (Parasites--Marmots)

KAPITONOV, V.I.

Ecology of the marmot *Marmota camtschatica* Pall. Biol. MOIP.
Otd. biol. 65 no. 4:114-115 JI-Ag '60. (MIRA 13:10)
(KHARAULAKH MOUNTAINS—MARMOTS)

KAPITONOV, V.I.

Distribution of *Marmota camtschatica* Pall. Biol. ~~NOIP~~. Otd. biol.
65 no.5:5-15 8-0 '60. (MIRA 13:12)

(SIBERIA, EASTERN ~~MARMOTS~~)

(SOVIET FAR EAST ~~MARMOTS~~)

KAPITONOV, V.I.

Ecological observations on pikas (*Ochotona hyperborea* Pall.) in
the lower Lena Valley. Zool. zhur. 40 no.6:922-933 Jo '61.
(MIRA 14:6)

1. Research Institute of Agriculture of the Far North, Leningrad.
(Kharaulakh Range--Pikas)

KAPITONOV, V.I.

Siberian finch (*Leucosticte arctica* Pall.) in the Kharaulakh Mountains.
Biol.MOIP.Otd.biol. 67 no.3:119-122 My-Je '62. (MIRA 15:11)
(Kharaulakh Range--finches)

KAPITONOV, V.I.

Ornithological observations in the lower Lena Valley. Ornitologiya
no. 5:35-48 '62. (MIRA 16:2)
(Lena Valley—Birds)

KAPITONOV, V.I.

Propagation of common pika. Isv.Komi fil.Geog.ob-va SSSR no.7:
131 '62. (MIRA 15:12)
(Komi A.S.S.R.—Pikas)

KAPITONOV, V.I.

Ornithological observations in the lower reaches of the Lena River (to be
continued). Ornitologia no.4:40-63 '62. (MIRA 16:4)
(Lena Valley—Birds)

KAPITONOV, V.I.

New data on the biology of the lemminglike vole *Alticola*
(*Aschizomys*) *lemmings* Miller. Biol. MOIP. Otd. biol. 68
no.6:14-26 N-D '63. (MIRA 17:1)

KAPITONOV, V.I.; LOBACHEV, Yu.S.

Ecological observations on the marmot *Marmota mensbieri* Kaschk. in
the Korshintau Mountains (western Tien Shan). Zool. zhur. 43 no.8:
1211-1220 '64. (MIRA 17:11)

1. Institut zoologii AN KazSSR, Alma-Ata.

KAPITONOV, V.I.

Molt in marmots. Trudy Inst. zool. AN Kazakh. SSR. 23:169-190
'64. (MIRA 17:11)

L 21778-66 EWT(m)/EWP(i)/EWP(t) LJP(c) JD

SOURCE CODE: UR/0285/65/000/023/0018/0018

ACC NR: AP6002511

AUTHORS: Shologon, I. M.; Kapitonov, V. M.; Romantsevich, M. K.

ORG: none

TITLE: A method for obtaining bicyclopentadienyl titanium derivatives, containing silicon. Class 12, No. 176583²¹ /announced by Ukrainian Scientific Research Institute for Plastics (Ukrainskiy nauchno-issledovatel'skiy institut plastmass)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 18

TOPIC TAGS: organotitanium compound, organosilicon compound, organic chemistry, titanium, silicon, sodium

ABSTRACT: This Author Certificate presents a preparative method for obtaining bicyclopentadienyl titanium derivatives containing silicon. The sodium derivatives of cyclopentadienyltrialkyl (aryl) silane are treated with titanium tetrachloride at -30 to -40C in an organic solvent, e.g., tetrahydrofuran.

SUB CODE: 07/ SUBM DATE: 30Nov64

UDC: 547.419.5/6:514.721.07

Card 1/1 ULR

KAPITONOV, Yu.

Deputy Chief of Transcaucasian Administration of the Main Administration on Animal Husbandry of the Ministry of Agriculture of the USSR. Wrote an article on the yield of lucerne per hectare; deficiencies in fodder growing. OKTENBERYANSKIY R-N, ALAVEROSKIY AND KALININSKIY

Soviet Source: N: Kommunist No. 86, 13 Apr 51, Abstracted in USAF, "Treasure Island", on file in Library of Congress, Air Information Division, Report No. 99992.

KAPITONOV Ya. K.
KAPITONOV, YA. K.

Dairing - Armenia

Successes of Beria District collective farms in raising milk production of cows. Sots. zhiv.
14 no. 4:35-39 Ap '52.

Monthly List of Russian Accessions. Library of Congress, July 1952. Unclassified.

KAPITONOV, Ye.

Armored troops of the Soviet Army. Voen. znan. 37 no.8:14-15
Ag '61. (MIRA 14:7)
(Tanks (Military science))
(World War, 1939-1945--Campaigns)

KAPITONOV, Ye., polkovnik

Soviet tank troops. Voen. snan. 39 no.8:19-20 Ag '63.
(MIRA 16:8)
(Tanks (Military science))

KAPITONOV, Ye.I. (Kursk)

Kursk Magnetic Anomaly and its development. Geog. v shkole 26
no.1:19-23 Ja-f '63. (MIRA 16:5)
(Kursk Magnetic Anomaly---Iron mines and mining)

KAPITONOV, YE. I.

Cand Geograph Sci

Dissertation: "Noginsk District of the Moscow Region (as an Example of
Economical Development of the Eastern Part of the Moscow Region)." 26/6/50

Moscow Regional Pedagogical Inst

SO Vecheryaya Moskva
Sum 71

KAPITONOV, Ye.I.

Reservoir on the Kuban River. Geog. v shkole no.4:68 J1-Ag '54.
(MLRA 7:8)

(Kuban Valley--Reservoirs) (Reservoirs--Kuban Valley)

KAPITONOV, Ye. I.

Reclamation of Kuban reed swamps. Geog. v shkole 18 no.6:16-18
H-D '55. (Kuban Valley--Reclamation of land)
(MLBA 9:1)

KAPITONOV, Ye. I.

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,
p 164 (USSR) 14-57-6-12968

AUTHOR: Kapitonov, Ye. I.

TITLE: A Program for Studying Local Economic Conditions in
the Development of Collective Farm Agriculture on the
Basis of Economic and Geographical Investigations
(Programma izucheniya mestnykh ekonomicheskikh usloviy
razvitiya khozyaystva kolkhoza pri ekonomiko-
geograficheskikh issledovaniyakh)

PERIODICAL: Uch. zap. Krasnodarsk. gos. in-t, 1956, Nr 18, pp 73-76

ABSTRACT: The author states that when a program (of 15 points)
is followed in studying conditions, planning committees
are able to determine agricultural goals for collective
farms with greater accuracy, and collective farms are
better able to plan more effective economic utilization
of their resources.

Card 1/1

KAPITONOV Ya.I.

"Mineral wealth of our country" by P.Antropov. Reviewed by
E.I. Kapitonov. Geog.v shkole 20 no.4:74 J1-Ag '57. (MLRA 10:7)
(Mines and mineral resources) (Antropov, P.)

KAPITONOV, Ye. I.

Borisov, V. I., Kapitonov, Ye. I., Azovskoye more (The Azov Sea) Krasnodar,
Knigoizdat (Publishing House), 1957, 76 pages, ill. (ZhGeogr 1/58-558) (Book)

SOV/26-58-1-17/36

AUTHORS: Kapitonov, Ye.I., Candidate of Geographical Sciences, Bember,
I.A.

TITLE: The Junction of the Kuban' River with the Black Sea (Soye-
dineniye reki Kubani s Chërnym morem)

PERIODICAL: Priroda, 1958, Nr 1, pp 93-95 (USSR)

ABSTRACT: In the beginning of the 19th century, the Kuban' river fell in-
to the Black Sea. Due to a deviation of the Kuban' river into
the Akhtanizovskiy Estuary and a steeper decline of the Azov
Sea area, the river started to flow into the Azov Sea. In the
first 5-Year Plan, fresh water was to be led to the Kiziltashskaya
group of estuaries, to make pisciculture possible there.
For this purpose, 9 % of the Kuban's flow was thought to be
sufficient, and utilization of the Kuban's old river bed to-
wards the Black Sea was suggested. Between 1949 and 1955 a
head lock and a trunk canal, chiefly along the former river
bed, were completed. However, the amount of water carried by
the canal at present does not correspond with the planned
amount (20 cubic m a second). This is explained by the pre-
sence of a railroad bridge across the canal, which permits

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The Junction of the Kuban' River with the Black Sea

SOV/26-58-1-17/36

only the passage of 4 cubic m a second. A new bridge replacing the former has therefore been suggested. At present, the salinity of the Kiziltashskiy and Bugazskiy estuaries is 28 to 32 ‰, i.e. 1½ to 2 times more than that of Black Sea water. In 1955, the first positive results were obtained in the estuaries with respect to feeding and spawning of the grey mullet. Thus the former connection between the Kuban' river and the Black Sea has been restored. There are 2 photos, 1 map and 5 Soviet references.

ASSOCIATION: Krasnodarskiy gosudarstvennyy pedagogicheskiy institut
(The Krasnodar State Pedagogical Institute)

Card 2/2

KAPITONOV, Ye.I.

"The northernmost" by V.P. Dunaev. Reviewed by E.I. Kapitonov.
Geog. v shkole 24, no. 1:93 Ja-F '61. (MIRA 14:2)
(Noril'sk)
(Dunaev, V.P.) .

KAPITONOV, Ye.I (Krasnoyarsk)

"Izvestia" of the Krasnoyarsk Department of the All-Union
Geographical Society, no.1. Reviewed by E.I. Kapitonov. Geog. v
shkole 24 no.5:92-93 S-O '61. (MIRA 14:8)
(Geography--Periodicals)

KAPITONOV, Ye.N.; LEBEDEV, K.I.

Studying the hydraulic resistance and heat transfer during the
flow of boiling solutions in a horizontal pipe. Khim.prom. 41
no.7:511-515 J1 '65. (MIRA 18:8)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

KAPITONOV, Yevgeniy Vasil'yevich; STAVROPOL'TSEV, Fedor Stepanovich;
MIKHEYEV, N.I., red.; DURASOVA, V.M., tekhn. red.

[Operation of submerged centrifugal electric pumps] Eks-
pluatatsiya pogruzhnykh tsentrobezhnykh elektronasosov.
Kuibyshev, Kuibyshevskoe knizhnoeizd-vo, 1964. 53 p.
(MIRA 17:1)

S/058/62/000/010/041/093
A061/A101

AUTHORS: Inozemtseva, O. I., Kapitonov, Yu. A.

TITLE: Azimuthal telescope for the study of cosmic ray variations as a function of the incoming direction of primary radiation

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1962, 61, abstract 10B455
(In collection: "Kosmicheskiye luchy, no. 3", Moscow, AN SSSR, 1961, 105 - 121, summary in English)

TEXT: Described is an instrument for recording intensity variations in the hard component of cosmic rays proceeding in the vertical direction and from opposite azimuths at an angle of 45° to the vertical. The instrument is based on the technique of crossed telescopes with opposite azimuths. For the recording of the directional action of cosmic rays, the instrument is equipped with Geiger counters of the type CH-5 Γ (SI-5G). Every two counters of the upper and the lower row, connected to the coincidence circuit ($\tau = 1,4$ sec), constitute a telescopic system permitting the measurement of cosmic ray intensity in a narrow solid angle. To achieve a high statistical accuracy the instrument is of the multichannel type. A statistical two-hour accuracy of

Card 1/2

Azimuthal telescope for the study of...

S/058/62/000/010/041/093
A061/A101

measurements is 0.3 and 0.6% for the vertical and the oblique directions. To separate the muonic component, a 10-cm thick lead screen is interposed between the counter rows. The instrumental errors do not exceed the statistical ones.

[Abstracter's note: Complete translation]

Card 2/2

KAPITONOVA, G. V.

21(3)

AUTHORS:

Krichevskaya, Ye. I., Kapitonova, G. V. SOV/20-123-1-17/56

TITLE:

The Influence of X-Rays on the Histaminopexic Capacity of Tissues (Vliyaniye rentgenovskikh luchey na gistaninopeksicheskuyu sposobnost' tkaney)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 68-71 (USSR)

ABSTRACT:

The authors found it of interest to investigate whether the variation of the free histamine level in the tissues under the influence of X-rays observed by them (Ref 12) might not be connected with a disturbance of their histaminopexic capacity. First, experimental methods are investigated, viz. the determination of the histaminopexic capacity of the tissues and the determination of the free histamine in the tissues. The existence of the histaminopexic capacity of the tissues was investigated under physiological conditions, the test subjects being rats, guinea pigs, and rabbits. The results obtained are shown in a table. All tissues investigated by the authors (the skin of the abdomen, kidneys, liver, stomach, lungs and brain) have a considerable histaminic capacity. With the exception of the skin the data obtained with respect to the above-mentioned

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The Influence of X-Rays on the Histaminopexic
Capacity of Tissues

SOV/20-123-1-17/56

types of animals do not differ from one another. Next, the influence exercised by X-rays upon the histaminopexic capacity of tissues was investigated in the case of 72 white rats. The animals were irradiated with a single lethal dose of 800-1000 r. The skin, kidneys, liver, and the brain were investigated, and results are shown in a table. A single lethal irradiation reduces the histaminopexic capacity of the skin and of the tissues as well as of the kidneys and the brain considerably, whereas the histaminopexic capacity of the liver is not disturbed under the given conditions. The irradiation takes effect very rapidly, and the greatest change occurs already after an irradiation of 5 minutes. The histaminic capacity of the tissues is even more reduced by the death of the animals. Histaminopexy (gistaminopeksiya) exercises a protective influence. Between the change of the level of the free histamine in the tissues and their histaminopexic capacity there is a distinctly causal correlation. Certain protective mechanisms are probably not disturbed by irradiation. One of them is probably histaminase. The present paper leads to the following conclusions:

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Capacity of Tissues

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- 1) Histaminopexic capacity is present not only in the blood but also in other animal tissues.
- 2) Damage caused by irradiation rapidly and noticeably suppresses the histaminopexic capacity of the tissues.
- 3) The histaminopexic capacity of the tissues is, without doubt, one of the protective mechanisms which regulate the level of the free histamine in the organism. There are 3 tables and 16 references, 2 of which are Soviet.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR
(Institute for Biological Physics of the Academy of Sciences,
USSR)

PRESENTED: July 1, 1958, by L. S. Shtern, Academician

SUBMITTED: June 27, 1958

Card 3/3

ACCESSION NR: AT3012856

S/2970/61/000/0048/0056

AUTHOR: Krichevskaya, Ye. I.; Kapitonova, G. V.

TITLE: Effect of ionizing radiation on the histamine level in tissues and its significance in early radiation damage to the histohematic barriers

SOURCE: Gisto-gematicheskiye bari'yery*: trudy* soveschaniya, 25-28 maya 1960 g., Moscow, 1961, 48-56

TOPIC TAGS: radiation sickness, ionizing radiation, histohematic barriers, histamine level, enzyme activity, histamine binding, histamine liberation, histamine depletion, renal barriers, hepatic barriers, barrier permeability

ABSTRACT: As a continuation of earlier research by the authors (Dokl. AN SSSR, v. 123, no 1), the part played by histamine in the radiation derangement of permeability of the histohematic barriers, which is still highly debatable in spite of numerous researches, was investigated. An increase in the free histamine content of var-

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ACCESSION NR: AT3012856

ious tissues, except the brain, was noted after a single irradiation with a lethal x-ray dose. The changes result from altered activity of the enzymes that produce and destroy the histamine, as well as from a disturbance in the processes of its binding and liberation. Of great significance is the change in the histaminopexic function of the tissues as controlled by the pituitary adrenal system. The radiation changes in the histamine level of the tissues are of a reflex nature. The initial link of this reflex is localized in the abdominal organs. No permeability disturbances were noted in the hemato-encephalic or other histo-hematic (renal and hepatic) barriers to P-32 upon elimination of the radiation changes in the histamine level by antihistamine drugs. The effect of massive liberation and depletion of histamine on permeability disturbances of the hemato-encephalic barrier to acid fuchsin was also noted. Although the material obtained does not lead to final conclusions regarding the role of histamine on the radiation syndrome, it undoubtedly participates in radiation damage to the permeability of histo-hematic barrier. Orig. art. has: 9 tables.

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ACCESSION NR: AT3012856

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moscow
(Institute of Biological Physics, AN SSSR)

SUBMITTED: 00

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: BC

NO REF SOV: 007

OTHER: 013

Card 3/3

ACCESSION NR: AT3011782

S/2949/63/000/000/0140/0158

AUTHOR: Krichevskaya, Ye. I.; Kapitonova, G. V.

TITLE: Ionizing radiation effect on mechanisms regulating free histamine level in the organism

SOURCE: Gisto-gematicheskiye bar'yery i ioniziruyushchaya radiatsiya. Sbornik rabot laboratorii fiziologii. Moscow, AN SSSR, 1963, 140-158

TOPIC TAGS: ionizing radiation, lethal X-radiation dose, free histamine, free histamine level mechanism, chromatographic method, radiation damage, hypophyseal-adrenal system, tissue bond forming capacity, brain tissue, histamine level shift, reflex nature, direct nutritive medium

ABSTRACT: Experimental white rats were X-irradiated with single lethal doses of 800-1000 r (RUP-1 unit, 50 r/min). At different periods after irradiation free histamine content was determined by a modified chromatographic method in the following tissues: brain, skin, stomach, liver, and kidneys. Results show that free histamine increases shortly after irradiation in all tissues studied except the

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ACCESSION NR: AT3011782

brain and decreases before death. Absence of free histamine level change in the brain indicates effective protective mechanisms for providing the central nervous system with a relatively constant direct nutritive medium despite radiation damage in the organism. The radiation reaction mechanism for increasing histamine varies in different organs. In some organs it depends mostly on freeing the histamine and in others on activating its formation. These processes are greatly affected by the depressed capacity of tissues to form bonds with histamine resulting from functional radiation damage of the hypophysical-adrenal system. The reflex nature of histamine level shifts indicates unity of neurohumoral mechanisms in radiation damage. Orig. art. has: 9 tables.

ASSOCIATION: Laboratoriya fiziologii. Moscow. AN SSSR
(Physiology Laboratory. AN SSSR)

SUBMITTED: 00

DATE ACQ: 07Oct63

ENCL: 00

SUB CODE: AM

NO REF SOV: 028

OTHER: 064

Cord 2/2

BYLOV, V.D.; ZNAMENSKIY, Yu.D.; KAPITONOVA, L.P.; SHCHEDROV, M.S.

Sulfuric acid method of recovering nitrogen oxides from
incompletely oxidized gases. Zhur.prikl.khim. 35 no.7:1503-
1505 J1 '62. (MIRA 15:8)

(Nitrogen oxide)

AL'TMAN, Ya.A.; KAPITONOVA, M.E.

Electrical responses of different segments of the auditory system following the action of paired auditory signals of different intensity. *Fiziol. zhur.* 49 no.8:908-918 Ag '63.
(MIRA 17:2)

1. From the Laboratory for Auditory Analyser Physiology,
I.P. Pavlov Institute of Physiology, Leningrad.

24,3300

AUTHORS:

Grum-Grzhimaylo, S.V., Brilliantov, N.A.,
Sviridova, R.K., Sukhanova, O.N., Kapitonova, M.M.

TITLE:

PERIODICAL: Optika i spektroskopiya, v.13, no.1, 1962, 133-134
Absorption spectra of iron-coloured beryls at
temperatures from 290 to 1.7°K

TEXT: Results obtained by the authors are compared with the
earlier work of M. Dvir and W. Low (Phys. Rev., 119, 1960, 1587)
who investigated one sample of blue aquamarine beryl at
temperatures of 290 and 20°K. Measurements were made on the
polarization of light in the absorption spectra of six samples of
iron beryls with different colours: yellow, green-yellow and
blue at temperatures of 1.7, 4.2, 77 and 290°K. The wide
absorption band observed at 270°K in the near infrared is
accounted for by the presence of Fe²⁺ ions and the absorption
band in the ultraviolet with a maximum at about 26780 cm⁻¹ by the
presence of Fe³⁺ ions. These latter bands in the ultraviolet for
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S/051/62/013/001/014/019
E039/E420

Absorption spectra....

the iron beryls are not observed in the blue aquamarine. At 77°K very weak narrow absorption bands are observed which become more distinct at 4.2°K. In all samples the extraordinary waves are polarized in the 17190 and 18620 cm^{-1} bands, particularly in the green-yellow beryl no.209 having a maximum thickness of 6.83 mm. There is also a weak unpolarized band at 21520 cm^{-1} . The 18620 and 21520 bands are not given in the work of Dvir and Low. In all samples the extraordinary waves are completely polarized in the 26780 cm^{-1} band. Dvir and Low observed bands at 26500 and 17590 cm^{-1} which are sufficiently near to the authors' at 26780 and 17190 cm^{-1} . No further change in the absorption spectra were discovered on reducing the temperature to 1.7°K. The five absorption bands presented by Dvir and Low in their paper were interpreted as due to transitions between levels in Fe^{3+} ions, separated in the octahedral crystal field. The bands observed near to those of Dvir and Low are interpreted as: band 26780 cm^{-1} transition in $\text{Fe}^{3+} {}^6\text{A}_0(\text{d}\gamma^3\text{d}\gamma^2) \rightarrow {}^4\text{T}_2(\text{d}\gamma^3\text{d}\gamma^2)$ and the band 17190 cm^{-1} as the ${}^6\text{A}_0(\text{d}\gamma^3\text{d}\gamma^2) \rightarrow {}^4\text{T}_2(\text{d}\gamma^4\text{d}\gamma)$ transition.

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REF ID: A644934

A. M. A. Kapitonova, N. P.

TITLE: Distribution of cations in lithium galloferrites

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2650-2654

TOPIC TAGS: cation distribution, lithium, gallium alloy, ferrite, x-ray interference, line intensity

ABSTRACT: The degree of ordering and conditions for the existence of superstructure in $\text{Li}_{0.5}\text{Fe}_{2.5-t}\text{Ga}_t\text{O}_4$ ($t = 0-2.0$) were investigated by x-ray diffraction. The ferrites were prepared by firing for 2 hours at 800°C and 5 hours at 900--1550°C, followed by quenching to room temperature. The distribution of monovalent and trivalent cations in octahedral and tetrahedral positions was found from the ratio of the x-ray interference line intensities $I_{(220)}/I_{(400)}$ and

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ACCESSION NR: AP4044934

$I(401)/I(422)$ with a maximum error of 0.05; the method used was that of Bertaut (Compt. rend. v. 230, 213, 1950). The activation energy of the process of redistribution of cations between octahedral and tetrahedral sites was calculated. The authors are grateful to Prof. V. G. Saksonov for discussion of the results, to Prof. A. I. Gerasimov for the use of the formula, and to Prof. A. I. Gerasimov for the use of the formula.

ASSOCIATION: None

RECEIVED: 21 Mar 64

REF CODE: SS

NR REF SOV: 01

OTHER: 005

Corr. 2/5

ACCESSION NR: AP4044934

ENCLOSURE (0)

Distribution of cations in lithium salt
Table 1. Distribution of cations in lithium salt

Formula		(20.11 F)	(20.11 F)	(20.11 F)	(20.11 F)
$Fe^{3+}_0 [Li^{+}_0 Fe^{3+}_0] O_4$	900	1400	-	-	-
$Ga^{3+}_0 [Li^{+}_0 Ga^{3+}_0] O_4$	900	1400	25	40	-
$Ga^{3+}_0 Fe^{3+}_0 [Li^{+}_0 Ga^{3+}_0 Fe^{3+}_0] O_4$	-	-	-	-	-
$Ga^{3+}_{0.31} Fe^{3+}_{0.79} [Li^{+}_{0.5} Ga^{3+}_{0.04} Fe^{3+}_{1.46}] O_4$	1000	-	0.25	84	0.25
$Ga^{3+}_{0.27} Fe^{3+}_{0.73} [Li^{+}_{0.5} Ga^{3+}_{0.03} Fe^{3+}_{1.47}] O_4$	1100	-	-	58	0.31
$Ga^{3+}_{0.24} Fe^{3+}_{0.76} [Li^{+}_{0.5} Ga^{3+}_{0.01} Fe^{3+}_{1.49}] O_4$	1100	-	-	-	0.43

ACQUISITION REF: AP4044934

Table 1 (cont.'d)

ENCLOSURE : 02

$\text{Ga}_{0.42}^{\text{IV}}\text{Fe}_{0.58}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.08}^{\text{IV}}\text{Fe}_{0.42}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.41}^{\text{IV}}\text{Fe}_{0.59}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.11}^{\text{IV}}\text{Fe}_{0.39}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.4}^{\text{IV}}\text{Fe}_{0.6}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.21}^{\text{IV}}\text{Fe}_{0.29}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.64}^{\text{IV}}\text{Fe}_{0.36}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.11}^{\text{IV}}\text{Fe}_{0.39}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.45}^{\text{IV}}\text{Fe}_{0.55}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.33}^{\text{IV}}\text{Fe}_{0.33}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.44}^{\text{IV}}\text{Fe}_{0.56}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.46}^{\text{IV}}\text{Fe}_{0.04}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.46}^{\text{IV}}\text{Fe}_{0.54}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.44}^{\text{IV}}\text{Fe}_{0.06}^{\text{IV}}]\text{O}_4$ 12.7
 $\text{Ga}_{0.57}^{\text{IV}}\text{Fe}_{0.43}^{\text{IV}}[\text{Li}_{0.5}^{\text{IV}}\text{Ga}_{0.41}^{\text{IV}}\text{Fe}_{0.09}^{\text{IV}}]\text{O}_4$ 12.7

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ACCESSION NR: AP4044934

ENCLOSURE 03

Table 1 (cont'd)

Note: Heat treatment time was 5 hours in all cases

KAPITONOVA, N. V.

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Low-temperature adsorption of nitrogen on thermally de-
hydrated silica and alumina gels. N. V. Kapitonova, V.
F. Kiselev, M. V. Kapitonova, and P. A. Sysoyev (M. V.
Lomonosov State Univ., Moscow). Zhur. Fiz. Khim. 31,
1443-54 (1957).—N adsorption was determined on porous
SiO₂ obtained by combustion of (SiO)₂ (white soot),
and on a no. of carefully purified samples of SiO₂ and Al₂O₃
gels, calcined in a high vacuum for 24 hrs. at 800-900°. The
structural water was removed by heating at 1250° to const.
wt.; the sp. surface by the B.E.T. method. The adsorption
isotherms at the liquid-N temp. referred to a unit surface
coincided for all the samples. The adsorption results
showed that low-temp. N adsorption can be used as a
standard method for the determination of sp. surfaces.

Distr: 4543/4520/4540

5(3), 5(4)

AUTHORS:

Zarif'yants, Yu. A., Kapitonova, N. V., Kiselev, V. F.,
Krasil'nikov, K. G. SCV/156-59-1-12/54

TITLE:

The Adsorption of Benzene Vapors on Aluminosilicates of
Various Composition (Adsorbtsiya parov benzola na aljumo-
silikatakh razlichnogo sostava)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya
tekhnologiya, 1959, Nr 1, pp 48 - 51 (USSR)

ABSTRACT:

The insertion of AlO_4 tetrahedrons in the structure of
silica leads to a variation of the hydrated as well as
unhydrated sectors of the surface. Thus also the ad-
sorption properties vary during the transition from pure
silica to aluminosilicates of various composition. Alumino-
silicates with a content of 15% and 30% Al_2O_3 as well as
the aluminogel AT and silica gel K-2 were investigated.
The isothermal lines of adsorption are given in diagrams.
The initial sections (in enlarged reproduction) lie

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The Adsorption of Benzene Vapors on Aluminosilicates
of Various Composition

SOV/156-59-1-12/54

on a curve, and the adsorption rises with increasing Al_2O_3 content. This cannot be explained by an increase of the adsorption potential in the pores. The adsorption of aluminogel is higher than that of equally porous aluminosilicate with 15% Al_2O_3 and of more fine-porous silica gel. The variation of the adsorptive capacity seems to depend on changes of the surface structure. This will be investigated with nonporous adsorbents in a future work. V. T. Bykov (Ref 8) assumed that the so-called "absolute" adsorption properties of the surface of silica and aluminosilicates are equal and extended this statement to various kinds of adsorbents. This is a false presumption, based on unfounded presuppositions. Actually, a function must be effective here which depends just on the specific properties of the surface of the individual adsorbents. The range, for instance, which is occupied by a benzene molecule on silica gel is larger than that on the aluminogel. Gratitude is expressed to B. V. Il'in for his assistance in this work. There are 2 figures and 16 refer-

Card 2/3

The Adsorption of Benzene Vapors on Aluminosilicates
of Various Composition

SOV/156-59-1-12/54

ences, 14 of which are Soviet.

ASSOCIATION: Kafedra obshchey fiziki Moskovskogo gosudarstvennogo univer-
siteta im. M. V. Lomonosova (Chair of General Physics of
Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 10, 1958

Card 3/3

KAPITONOVA, O. N.

USSR / Microbiology. General Microbiology. Effect of External Agents. Disinfection. F

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5418.

Author : Prokof'yeva-Bel'govskaya, A. A.; Alikhanyan, S. I.; KapitonoVA, O. N.; Yerokhina, L. I.

Inst : AS USSR.

Title : Cytology of Radiation Mutants in Actinomycetes (Actinomyces globisporus streptomycini Kras.)

Orig Pub: Izv. AN SSSR. Ser. biol., 1958, No 2, 193-201.

Abstract: Cytological and cultural characteristics, as well as antibiotic activity of four strains of A. globisporus streptomycini and 50 mutants of this species, obtained with the aid of ultra-high doses of ultraviolet rays (10,000-15,000 erg/mm²) with intermediate photoreactivation, were studied. The ultraviolet radiation caused

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*Lab. Radiation Genetics, Inst. Biophysics,
AS USSR. and A-U Inst. Antibiotics*

2

USSR / Microbiology. General Microbiology. Effect of F
External Agents. Disinfection.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5418.

Abstract: the formation of mutants with hereditary changes of nucleoprotein components of the cell. The mutants obtained differed from each other mainly by a basophilia of protoplasm in stage I and II of the development, structure of nuclear elements, character of their division and their content of DNA. 5 types of radiation mutants most frequently encountered in a producer of streptomycin under the influence of ultraviolet radiation were isolated. 21 microphotographs and a scheme of the development of mutants of the 5 isolated types are given. -- L. N. Kats.

Card 2/2

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; KAPITONOVA, O.N.; SHAMINA, Z.B.

Radiosensitivity of actinomycetes strains and species as related
to the structural characteristics of their nuclear elements.
Radiobiologiya 1 no.1:112-118 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR i Vsesoyuznyy nauchno-
issledovatel'skiy institut antibiotikov, Moskva.
(ACTINOMYCES) (RADIATION--PHYSIOLOGICAL EFFECT)
(CELL NUCLEI)

MIKHAYLOVA, G.R.; KAPITONOVA, O.N.

Study of the morphology of Actinomyces during its culture
on agar-containing media. Mikrobiologiya 33 no.2:239-244
Mr-Apr '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov,
Moskva.

PROKOP'YEVA-BEL'GOVSKAYA, A.A.; KAPITONOVA, O.N.; SHAMINA, Z.M.

Cytological study of the changes in Actinomyces cells caused by
radiation. TSitologia 4 no.1:18-26 Ja-F '62. (MIRA 15;4)
(RADIATION—PHYSIOLOGICAL EFFECT) (ACTINOMYCES)

KAPITONOVA, O.N.; PROKOF'YEVA-BEL'GOVSKAYA, A.A.

Cytological characteristics of the development of three strains of
Actinomyces streptomycini Kras. on various mediums. Antibiotiki 8
no.12:1074-1080 D '63. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

L 10402-63

ACCESSION NR:

AP3002915

EPF(c)/EWT(m)/BDS/ES(b)--AFPTC/ ASD--Pr-4--AR/K
5/0220/03/032/003/0450/0454

AUTHOR: Kapitonova, G. N.

TITLE: Cytological study of Actinomyces cells irradiated¹⁹ with UV and subjected to photoreactivation 60
58

SOURCE: Mikrobiologiya, v. 32, no. 3, 1963, 450-454

TOPIC TAGS: UV effects on cytology, Actinomyces olivaceus, photoreactivation, cell development, spores, buds, basophilia, nuclear division

ABSTRACT: A study was made to determine the length of exposure to visible light (photoreactivation) required to restore the functioning of nuclear and cytoplasmic elements of Actinomyces olivaceus spores after UV irradiation with 3000 erg/cm sup 2. UV-irradiated spore suspensions were exposed to visible light for varying periods. Two control suspensions were used, the first subjected to neither UV nor photoreactivation, and the second UV-irradiated without photoreactivation. Suspensions were cultured in a bouillon medium and samples taken at 2-hr intervals for 12 hr to determine basophilia of spores and

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ACCESSION NR: AP3002915

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buds and to study the morphology and DNA content of nuclear elements. The non-UV-irradiated controls showed 66% budding after 4 hr, with basophilia and full viability of the nonbudded spores. The UV-irradiated, nonphotoreactivated controls showed weak basophilia at 4 hr and began to bud (5% budding) only after 8 hr. After 15 min of photoreactivation the UV-irradiated (experimental) spores had already begun to synthesize nucleic acid. After 4 hr of incubation 53% of the spores in this group showed basophilia. Lengthening photoreactivation to 30 or 60 min significantly increased the percentage of spores with restored basophilia and accelerated the budding process. Prolongation of photoreactivation beyond 60 min did not change the incidence of basophilia or budding, but considerably increased the number of dying spores or buds. Finally, lengthening the photoreactivation period to 240 min began to inhibit the ability of the spores to bud at all. After 8 hr of growth, all groups began to show intensive bud development and changes in bud morphology. The greatest number of viable but morphologically changed buds was observed in the spores which had been irradiated and then photoreactivated. Analysis of the morphological changes showed that the majority (up to 60%) of the buds were capable of forming normal branches. This may account for the fact that photoreactivation is accompanied by increased viability and a decrease in the incidence of mutations. Further experiments were

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conducted to determine the effect of exposure to visible light without preliminary UV-irradiation. It was found that visible light interferes with the processes involved in the division of nuclear elements, leading to the formation of large clumped nuclei incapable of division. In some buds the impairment was so great that they died in the course of further development; most, however, recovered the ability to undergo normal nuclear division and survived. Visible light in large doses thus inhibits the normal cellular development of Actinomyces, but the damage, unlike that caused by exposure to UV, rapidly disappears. "The author thanks A. A. Prokof'yeva-Bel'govskaya for advice on the present study." Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Vsesoyuzny'y nauchno-issledovatel'skiy institut antibiotiki
(All-Union Scientific Research Institute of Antibiotics)

SUBMITTED: 04Apr62 DATE ACQ: 23Jul63

ENCL: 00

SUB CODE: 00 NO REF SOV: 006

OTHER: 008

ja/h
Card 3/3

BORODIN, L.S.; BYKOVA, A.V.; KAPITONOVA, T.A.; PYATENKO, Yu.A.

Recent data on zirconolite and its niobium variety. Dokl. AN SSSR
134 no.5:1188-1191 O '60. (MIRA 13:10)

1. Institut mineralogii, geokhimii i kristalloghimii redkikh elementov
Akademii nauk SSSR. Predstavleno akademikom N.V.Belovym.
(Afrikandskaya zerkon--Zirconolite)
(Aldan Plateau--Zirconolite)

S/020/61/136/004/025/026
B016/B075

AUTHORS: Semenov, Ye. I., Khun Ven-sin, and Kapitonova, T. A.

TITLE: The New Mineral Baotite

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 4,
pp. 915-916

TEXT: The authors report on a new niobium mineral "baotite" (named after the town of Baotou in Inner Mongolia). Basing on the authors' data Pen Tsi-zhuy had already published brief information concerning this subject (Ref. 1). Baotite forms isometric, sometimes rectangular porphyritic crystals, 8-10 cm large, in white quartz. It has distinct cleavage faces in two directions, a brownish-black color, and in small splinters, it is transparent. Specific gravity $d = 4.42$ (theoretically 4.74). Microhardness 769 kg/mm² (about 5.9 of the Mohs scale). Optically monoaxial positive, $N_e = 2.16$, $N_o = 1.94$, $N_e - N_o = 0.22$. An intensive pleochroism from black-brown (N_e) to greenish-yellow (N_o) is visible. Extinction is diagonal with respect to the cleavage faces. V. I. Simonov

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The New Mineral Baotite

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of the Institut kristallografi AN SSSR (Institute of Crystallography AS USSR) has determined the dimensions of the tetragonal cell $a_0 = 19.68$; $c_0 = 5.88$ A, $c_0/a_0 = 0.312$. Volume of the cell $v = a^2c = 2205 \text{ \AA}^3$. The space group is $I 4_1/a$. Table 1 contains data of the Debye powder pattern, taken by analyst N. G. Bataliyeva. Chemical analyses are summarized in Table 2. Specimen no. 1, contained small quantities of albite and other minerals. Sr, Mn, V, Cu, Sn, and Cr could be discovered in baotite by spectrum analysis (weak lines). The empirical formula $\text{Ba}_2\text{Ti}_7\text{NbSi}_4\text{O}_{28}\text{Cl}$ with a weight per formula unit of 1575 was determined by chemical analysis. The number of formula units in the unit cell amounts to $z = 3.72 \approx 4$. The formula is of the general type $\text{Ba}(\text{Ti},\text{Nb})_2\text{SiO}_7$ ($z = 16$). V. I. Simonov (Ref. 3), for the first time, determined the crystalline structure of baotite and found fourfold meta-silicate rings of silicon-oxygen tetrahedra Si_4O_{12} in it, as well as chains of titanium-niobium octahedra. In this structure, chlorine concentrates in large cavities. Ye. I. Semenov and Chzhan Pey-shan' (Ref. 2) recently have described a new mineral bafertisite $\text{BaFe}_2\text{TiSi}_2\text{O}_9$ occurring in the Chinese People's

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Republic. This mineral also contains Cl and Nb. In it, like in baotite, neither the compensation of the isomorphous substitution of Ti by Nb, nor the part played by Cl, are satisfactorily explained. In baotite, substitution according to formula $Nb^{5+}Cl^{-} \rightarrow Ti^{4+}$ is most probable, since the number of atoms of Nb and Cl are approximately equal. Jointly with baotite, albite, alkali-amphibole, aegrine, bastnäs site, galenite, and pyrite in small quantities occur in quartz veins. These hydrothermal quartz veins are deposited in quartzites not far from an alkali-granosyenite massif. The authors assume that the formation of baotite as well as of other minerals occurring there is connected with the alkaline metasomatism. Table 1 gives the numerical values of the interplanar spacings of baotite which have been obtained by the Debye powder pattern (analyst N. G. Bataliyeva). Table 2 contains the chemical analysis of baotite (analysts T. A. Kapitonova and A. V. Bykova). There are 2 tables and 3 references: 1 Soviet. ✓

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А Компоненты	Б Образец № 1			В Образец № 2	
	γ вес. %	Σ ат. колич.	б) группировка	γ вес. %	Σ ат. колич.
SiO ₂	14,17	0,236	0,236 ≈ 0,96 ≈ 1 0,492 ≈ 2,00	13,20	0,220
TiO ₂	29,33	0,367		33,65	0,421
Nb ₂ O ₅	11,50	0,087		10,80	0,081
Fe ₂ O ₃	3,07	0,038		1,75	0,022
Al ₂ O ₃	1,62	0,032	0,261 ≈ 1,06 ≈ 1	следы	
Cr ₂ O ₃	0,05	—		—	
MgO	0,20	0,004		—	
CaO	0,41	0,007		—	
BaO	37,55	0,244		38,60	0,251
K ₂ O	0,13	0,003		—	
Na ₂ O	0,20	0,007		—	
H ₂ O	0,52	0,058		2,17	0,065
Cl	2,01	0,057		0,50	
—O=Cl ₂	0,45	—			
Σ Сумма	100,31			99,97	

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